

and Lowe, from specimens collected by the latter (Proc. A.N.S. Phila. 1932, p. 131). It has been taken by one of us (A.A.O.) at Port Pizarro and Tumbes River, in northern Peru. These shells agree fully with the original account and figure of *thracioides*, but to eliminate all doubt we sent a specimen to Mr. J. R. Le B. Tomlin, who writes: "I compared it with the type of *M. thracioides* Ads. & Rve., and it is absolutely identical. We have the specimen figured in the 'Samarang,' pl. 23, fig. 8. It was purchased from Mrs. Lombe Taylor after her husband's death. It measures 36 mm. in length. It is just luck if we have any of the types from the 'Samarang' or other early voyages, such as the 'Sulphur.' At that time the collections seem to have been the Captain's perquisite, and Belcher, who was a collector, absorbed all the more showy material. Belcher's collection was sold at auction. After Cuming's death, Lombe Taylor, who was a well-to-do country squire, seems to have mopped up whatever was on the market from time to time."

In the years 1836-42 H. M. S. "Sulphur," Captain Sir Edward Belcher, surveyed from northern Peru to Sitka. Collections were made in many places, among them in the Gulf of Fonseca (where Lowe picked it up many years later). It is believed that Captain Belcher got *M. thracioides* during this exploration, but did not turn it in for description until after the voyage of the "Samarang," 1843-46, which he also commanded. By that time the origin of the clam was forgotten, and the vague habitat "Eastern Seas" was assigned in the lack of any definite locality.

(To be continued)

NEW RACES OF *LIGUUS* FROM FLORIDA AND CUBA

BY WILLIAM J. CLENCH

(Plate 7)

Liguus fasciatus deckerti, herein described, was collected by Mr. Schevill and the author in lower Florida during the winter of 1930. No additional specimens of this form have come to hand and it now seems best that it should be described.

During September of 1934 the author, with C. V. MacCoy and

H. D. Russell, spent several days at Viñales, for the purpose of collecting and studying the distribution of *Liguus* in this 'mogote' region. A single new race was encountered that was not obtained by Mr. Archer during his stay at this locality in 1930. Through the courtesy and kindness of Sr. L. Pequeño of Pinar del Rio, two additional races were presented for study and description. The figures are from holotypes.

***Liguus fasciatus deckerti*, subsp. nov.** Plate 7, fig. 4.

Description.—This form is a parallel of *L. f. castaneozonatus* Pils. and differs only in possessing a white tip and columellar region. It is exceedingly rare, a fact quite remarkable inasmuch as *castaneozonatus*, from which this form is apparently derived, is perhaps the most abundant *Liguus* in Florida. So far as known it does not occur as a pure race.

Length	44.5,	width	24.8,	aperture	20.8 x 13.4 mm.	Holotype
"	43.0,	"	23.5,	"	20.5 x 13.2 mm.	Paratype
"	40.5,	"	23.1,	"	19.0 x 13.0 mm.	"
"	38.5,	"	22.0,	"	19.0 x 12.0 mm.	"
"	28.0,	"	21.8,	"	18.5 x 11.5 mm.	"

All measured shells of $6\frac{3}{4}$ to 7 whorls each.

Holotype.—M. C. Z. 81549, Hammock no. 55, eastern end of Long Pine Key, south central everglades, Florida. W. J. Clench and W. E. Schevill collectors, February, 1930. Paratypes from the same locality. A series of three specimens were collected in Brickell Hammock, Miami, by J. N. Farnum in 1926.

Named for Richard F. Deckert of Miami, Florida, who has explored much of the Everglades collecting *Liguus*. This is probably the rarest of all Florida *Liguus*. Racial elements from many of the lower chain of keys, of course, have become exterminated, but in the days of their discovery they were probably fairly abundant. It is all the more remarkable that this derivative race should be from one that is perhaps the most abundant and at the same time the most widely distributed in lower Florida. With but few exceptions, all other parallel elements of the many color forms exist in about equal numbers if an average is taken throughout the distributional area for each race. Where such discrepancies exist, the numerical ratio is nowhere near so marked.

Liguus fasciatus mariae, subsp. nov. Plate 7, fig. 3.

Description.—Shell somewhat solid, elongate and shining. Whorls 8, rather strongly convex. Color: ground color white, banded above and below the periphery with broad bands of orange brown, pale or even absent on the early whorls, usually deep in color just behind the palatal margin. A hair-like line of the same color may split the narrow peripheral area of white. Green periostracal lines few or absent. Columella noticeably thickened on its inner margin, almost in the form of a vertical tooth or fold. Parietal wall white and somewhat calloused.

Length 59.0, width 25.0, aperture 23.5 x 12.5 mm. Holotype

“ 59.5, “ 24.5, “ 23.0 x 12.5 mm. Paratype

“ 57.5, “ 25.5, “ 23.0 x 12.5 mm. “

“ 56.5, “ 24.5, “ 22.0 x 13.0 mm. “

“ 54.0, “ 25.5, “ 23.5 x 12.5 mm. “

All measured shells of 8 whorls each.

Holotype.—M. C. Z. no. 94224, Ojo de Agua, near Cayo Magueyal, Pinar del Rio, Cuba. Ex. Sr. L. Pequeño.

Remarks.—This race is quite sharply differentiated from all other races of *fasciatus* in Pinar del Rio. It is not to be confused with *L. f. xanthus* Cl. which is similarly banded, though with yellow rather than brownish yellow. It differs entirely from this latter race as well by possessing more convex whorls, the presence of the columellar tooth or fold and in being a much larger shell. Cayo Magueyal, according to Sr. Pequeño, is not a true cay or key in the island sense but an area of broad-leaf trees apparently similar to the hammocks occurring in the Florida Everglades.

At the request of Señor Pequeño I take pleasure in naming this species after Sra. Maria Pequeño.

Liguus blainianus pilsbryi, subsp. nov. Plate 7, fig. 1.

Description.—Shell subsolid, produced and somewhat shining. Whorls 7, flat to slightly convex. Spire acute. Color: first whorl blackish brown, shading abruptly into dull pink, the latter color continuing for $1\frac{1}{2}$ whorls; from $2\frac{1}{2}$ whorl onwards the pink color fades into a ground color of white which is overlaid with wide supra- and infra-peripheral bands of strong axial flames. These flames are dark, blackish brown, alternating with intense yellowish orange interspaces, pale on the early whorls and much deeper in coloration on the body whorl. Peripheral line ($1\frac{1}{2}$ mm. in width) dark blackish brown and margined with the white

ground color. In addition, there is a narrow infra-sutural line of the same dark color. The peripheral line forms the supra-sutural line of the early whorls. The infra-peripheral band is margined below by a narrow line of the white ground color. Inner face of columella white, margined behind by deep pink and with the entire pink area encircled by a narrow line of brown. Parietal wall glazed white, usually transparent enough to see the coloration of the body whorl. Periostracal green lines absent on the type series.

Length	45.4	width	20.0,	aperture	20.5 x 11.5 mm.	Holotype
"	44.0,	"	20.2,	"	19.0 x 11.6 mm.	Paratype
"	42.0,	"	19.1,	"	17.5 x 11.5 mm.	"
"	41.0,	"	18.0,	"	16.5 x 9.5 mm.	"
"	40.5,	"	19.0,	"	18.8 x 11.0 mm.	"

All measured specimens of 7 whorls each.

Holotype.—M. C. Z. no. 94212, Campo de Tiro, 7 km. N. of Fierro, Pinar del Rio, Cuba. Ex. L. Pequeño. Paratypes from the above locality and from higher altitudes in the Sierra de Rangel, due north of Santa Cruz de los Pinos. This latter locality is only a few kilometers east of Campo de Tiro.

Remarks.—Closely related to the typical form, differing from it in the much greater width of the supra- and infra-peripheral bands and in an increased number of the flames. These differences are probably far more apparent than real, though there is no question about two different races being involved. Dr. Bermudez reports that the typical form, *L. blainianus blainianus*, is found most abundantly at the base of the mountains at Rangel, whereas *L. b. pilsbry* is a race of the higher altitudes. Sr. L. Pequeño stated that Campo de Tiro is in the mountains, which bears out the statement of Dr. Bermudez regarding their altitudinal distribution.

Named for Dr. H. A. Pilsbry who was first to recognize the complex color races of this genus existing in Florida.

Liguus flammellus russelli, subsp. nov. Plate 7, fig. 2.

Description.—Structural characters similar in all respects to *Liguus flammellus flammellus* Cl., differing only in coloration. The earlier three whorls are pure porcelain white, not pale ivory or pale pinkish as in the typical form. The green superimposed color is much lighter and shades more toward light grayish green.

Length	46.8,	width	21.5,	aperture	19.5 x 10.7 mm.	Holotype
"	51.5,	"	22.0,	"	20.0 x 11.7 mm.	Paratype
"	51.0,	"	23.7,	"	22.6 x 12.5 mm.	"
"	48.5,	"	22.5,	"	21.6 x 12.0 mm.	"
"	48.2,	"	21.0,	"	19.5 x 11.5 mm.	"

All measured shells of 7 whorls.

Holotype.—M. C. Z. no. 82980, Mogote Mina Constancia, Viñales, Pinar del Rio, Cuba. Collected by Julio Armenteros, 1934.

Paratypes.—All of the following in the vicinity of Viñales. Mogotes: Mina Constancia; José Maria Garcia; Lorenzo Lopez; de Roja; Abascal. Also at Ensenada Martin Maranda; Ancon. and La Chorrera, Baños de San Vicente. Collected by J. Armenteros, W. J. Clench, C. V. MacCoy and H. D. Russell.

A single lot, obtained from Sr. Armenteros, is from San Andres, Canalete, Consolacion del Norte, which is located some 20 km. N. E. of Viñales. This last extends the range of the species proper more than 10 km. beyond any previously published locality.

Remarks.—This race appear to be a direct derivative of *L. flammellus flammellus*. It is very rare at all the localities as only 48 specimens of this form occurred in over 3000 of this species from this region. None of the remaining color forms occurring at Viñales exhibit this whitish phase. It is perhaps to be regarded as a partial albino in which a reduction has taken place only with the ground color. It is not to be confused, however, with *L. f. organensis* Cl. which is the true albinistic form of the *flammellus* complex. This last is white with a very pale yellowish cast with an occasional green spiral color line. Both of these latter colors are, however, invested in the periostracum. Named for Mr. H. D. Russell.

CORRECTIONS.—In my paper (Occ. Pap. Boston Soc. Nat. Hist. 8, Feb. 1934) the original reference for *Liguus fasciatus pictus* (Reeve), p. 103, should be: Proc. Zool. Soc. London, p. 56, 1842; Conchologica Systematica 2, pl. 178, fig. 10, 1842.

To the type locality given for *L. flammellus organensis* (p. 124) Mogote el Queque should follow Ensenada del Valle. This locality is in the immediate vicinity of Viñales and not in the valley of San Vicente.